



**TECHNICAL REVIEW AND EVALUATION  
OF APPLICATION FOR  
AIR QUALITY PERMIT No. 78633**

**I. INTRODUCTION**

This Class II synthetic minor operating permit is a renewal for the operation of U.S. Army Garrison Yuma Proving Ground (USAG YPG)'s Yuma Proving Ground (YPG), which is located on 301 C Street, Yuma, AZ 85365. Permit #78633 renews and supersedes Permit #61405.

YPG has potential to emit hazardous air pollutants (HAPs) over the major source threshold which is 10 tons per year (tpy) of any single HAP and 25 tpy of total HAPs respectively. YPG has accepted voluntary limitation on the quantity of material that is being open burned and detonated to contain the emissions of HAPs and is limited to 9 tpy of any single HAP and 22.5 tpy of total HAPs. The facility is an area source of HAPs because emissions of single HAP and facility wide total HAPs are below major source threshold. All criteria pollutants are below major source threshold. YPG is classified as a Class II synthetic minor source.

**A. Company Information**

Facility Name: US Army Garrison Yuma Proving Ground

Mailing Address/ Facility Location: 301 C Street, Yuma, AZ 85365-9498

**B. Attainment Classification**

YPG is located in Yuma County. A portion of the facility is located in a 'non-attainment' area for PM<sub>10</sub>. The area is classified as attainment or unclassifiable for all other pollutants.

**II. PROCESS DESCRIPTION**

There are several activities conducted at the YPG facility including the operation of boilers/heaters, internal combustion engines, a gasoline dispensing facility, open burn/deflagration/detonation, etc. There are other miscellaneous activities such as abrasive blasting, metal working/welding, woodworking, degreasing, paint booth operations, document destructor, non-gasoline fuels, inert munitions manufacturing, and range scrap processing. In addition to the internal combustion engines listed on the equipment list, there are several engines that meet the definition of non-road engines.

**III. COMPLIANCE HISTORY**

Since the issuance of Permit 61405, there were 4 facility inspection, 3 permit deviations and 10 compliance certifications processed for this facility. The facility is in compliance with the applicable permit conditions. There was one notice of compliance issued to this facility which was closed after the deficiency was corrected. There are no current air quality cases or violations for this facility.

**IV. EMISSIONS**

The facility's PTE is provided in Table-1 below:

**Table 1: Potential to Emit**

<b>Pollutant</b>	<b>Emissions (tons per year)</b>	<b>Minor NSR Thresholds</b>	<b>Previous PTE</b>	<b>Minor NSR Triggered?</b>
NO <sub>x</sub>	59	20	92.44	No
PM <sub>10</sub>	20	7.5	20.53	No
CO	30	50	50.81	No
SO <sub>2</sub>	16	20	32.39	No
VOC	36	20	72.66	No
Pb	1.25	0.3	PTE calculations under LTF 40815 lists lead compound at 4.745 TPY.	No change in process or material. This calculation was not included in the previous permit.
Total HAPs	12	-	10.08	NA
Hydrogen chloride	9.31	-	9.03	NA

**V. APPLICABLE REGULATIONS**

Table 2 identifies applicable regulations and verification as to why that standard applies.

**Table 2: Applicable Regulations**

<b>Unit</b>	<b>Manufacture Date</b>	<b>Control Device</b>	<b>Rule</b>	<b>Discussion</b>
Boilers (30 total)	Varies 1951 - 2018	N/A	A.A.C. R18-2-724  NESHAP Subpart JJJJJ	A.A.C. R18-2-724 is applicable as the aggregate rated capacity on the premises are greater than 500,000 Btu/hr.  This subpart is applicable to liquid fuel fired boilers that produce steam/hot water. Hot water heater less than 1.6 MMBtu/hr is not affected by this rule [40 CFR 63.11195(f)]. Thus, only three boilers at the facility are affected by this rule.  There are five boilers manufactured after June 1989. Rated capacities of these boilers are below 10 MMBtu/hr and therefore NSPS Subpart Dc is not applicable.

Unit	Manufacture Date	Control Device	Rule	Discussion
Internal Combustion Engines (45 total)	Varies 1987 - 2005	None	A.A.C. R18-2-719  NESHAP Subpart ZZZZ	Applicability date for NSPS Subpart IIII for compression ignition engines is April 11, 2006. These engines are manufactured before this date; A.A.C. R18-2-719 is applicable.  US Army is an area source for HAPs. Since the construction of these engines, located at an area source of HAPs, commenced before June 12, 2006, these are termed as Existing. [40 CFR 63.6590 (a) (1) (iii)]. Requirements of NESHAP Subpart ZZZZ are applicable to these engines.
	Varies 2006 - 2017	None	NSPS Subpart IIII  NESHAP Subpart ZZZZ	NSPS Subpart IIII is applicable for these compression ignition engines as these are manufactured after April 11, 2006.  Requirements are met by meeting the requirements of NSPS Subpart IIII. [40 CFR 63.6590(c)]
	2013	None	NSPS Subpart JJJJ  NESHAP Subpart ZZZZ	This RICE is manufactured after July 1, 2008 thus NSPS Subpart JJJJ is applicable.  Requirements are met by meeting the requirements of NSPS Subpart JJJJ. [40 CFR 63.6590(c)]
Storage Tanks and Gasoline Dispensing Facility (GDF)	Tanks (1959, 1993) GDF (2005)	N/A	40 CFR 60 Subpart CCCCCC	NESHAP Subpart CCCCCC is applicable to GDF located at the minimart in Howard cantonment area. This GDF has a throughput of more than 10,000 gallons per month.  A.A.C. R18-2-710 is Not applicable to storage tanks which are less than 40,000 gallons in capacity and store petroleum products No.2 fuel oil and JP8 with vapor pressure less than 1.5 psia.
Open Burn/Open Detonation	N/A	N/A	Article 6	This is applicable to open burn and open detonation activities.

Unit	Manufacture Date	Control Device	Rule	Discussion
Landfill	1969	None	A.A.C. R18-2-731	<p>This rule is applicable to existing Municipal Solid Waste Landfills at which construction, reconstruction, or modification began on or before July 17, 2014 and that started receiving waste any time since November 8, 1987. Landfill at YPG was constructed in the year 1969 and has been receiving waste since then. This rule is applicable. The facility's design capacity is less than 2.5 million megagrams (Mg) and has submitted an initial design capacity report per 40 CFR 60.752(a) in September, 1997.</p> <p>NSPS Cf is not applicable. Because the design capacity for this landfill is less than 2.5 million Mg.</p> <p>NESHAP Subpart AAAA is applicable to landfills that have a design capacity equal to or greater than 2.5 Mg and 2.5 million cubic meters (m<sup>3</sup>) and has estimated uncontrolled emissions of non-methane organic compounds (NMOC) equal to or greater than 50 Mg per year calculated according to §60.754(a). YPG Landfill's capacity is 3 m<sup>3</sup> &amp; 2.1 million megagrams of waste (Based on 688 kg/m<sup>3</sup> AP-42 section 2.4). The uncontrolled NMOC emissions are 20.5 Mg per year for this facility. NESHAP Subpart AAAA is not applicable.</p> <p>NSPS Subpart WWW is applicable to landfills that started operation on or after May 30, 1991. US Army Landfill has been operational since 1969. Therefore NSPS Subpart WWW is not applicable.</p>

Unit	Manufacture Date	Control Device	Rule	Discussion
Unclassified /Miscellaneous Equipment such as degreasers, wood working, metal shredders, etc.	Various	Cyclones, Fabric filters	A.A.C. R18-2-730	There are no state rules specifically applicable to such miscellaneous activities. Therefore A.A.C. R 18-2-730 for unclassified sources is applicable.  This facility has voluntarily accepted the condition to not use chlorinated solvents. Therefore 40 CFR 63 Subpart T is not applicable.
Fugitive dust sources		Water Trucks Dust Suppressants	A.A.C. R18-2 Article 6, A.A.C. R18-2-702	These standards are applicable to all fugitive dust sources at the facility.
Abrasive Blasting		Wet blasting; Dust collecting equipment; Other approved methods	A.A.C. R-18-2-702, A.A.C. R-18-2-726	These standards are applicable to any abrasive blasting operation.
Spray Painting		Enclosures	A.A.C. R18-2-702, A.A.C. R-18-2-727	This standard is applicable to any spray painting operation.
Demolition/renovation operations		N/A	A.A.C. R18-2-1101.A.8	This standard is applicable to any asbestos related demolition or renovation operations.

## VI. PREVIOUS PERMIT AND CONDITIONS

Table 3 compares the sections in Permit #61405 with the conditions in this renewal permit:

**Table 3: Previous Permit Conditions**

Section No.	Determination		Comments
	Revised	Add/Delete	
Att. "A"	X		General Provisions: Revised to represent the most recent template language
Att. "B" Section I	X		Facility wide requirements: Revised to represent the most recent template language
III	X		IC Engines were separated into different sections III, IV and V based on NESHAP Subpart ZZZZ, NSPS Subpart IIII, and NSPS Subpart JJJJ applicability.

Section No.	Determination		Comments
	Revised	Add/Delete	
IV	X		GDF was renumbered as VI and revised to reflect only one GDF under YPG operational control.
V, VI, VII, IX	X		Open burn / detonation, Unclassified sources, Fugitive dust and Other activities sections were renumbered to VII, VIII IX and X respectively.
VIII		X	Mobile source requirements were deleted. ADEQ's air quality permits do not regulate mobile sources.
Att. "C"	X		Equipment List revised to reflect the most recent equipment operating at the facility and to include equipment information provided.

## VII. MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS

### A. Facility Wide

The Permittee must conduct an instantaneous survey of visible emissions from both process stack sources, when in operation, and fugitive dust sources. If the visible emissions on an instantaneous basis appears greater than the applicable opacity standard, then a six-minute observation of the visible emissions must be performed. If the six-minute observation of the visible emissions is greater than the applicable opacity standard, then the Permittee must take corrective action and report the event as an excess emission for opacity.

### B. Boilers/ Heaters

1. The Permittee must conduct a monthly opacity monitoring in accordance with Facility-wide requirements.
2. The Permittee must maintain records of fuel supplier certifications for demonstrating compliance with sulfur content limit.
3. The Permittee must conduct tune-up of the affected three boilers. The subsequent tune up of the boilers must be conducted, once in the permit term, and within 61 months of the previous tune up.

### C. Internal Combustion Engines

1. For ICEs not subject to New Source Performance Standards, the Permittee must maintain records of the following:
  - a. Conduct a monthly monitoring of visible emissions from the engines when in operation as per the periodic opacity monitoring requirements.
  - b. Keep records of fuel supplier certifications or other documentation.
2. For ICEs subject to National Emissions Standards for Hazardous Air Pollutants, the Permittee must maintain records of the following:

- a. For emergency engines, hours of operation of the RICE that is recorded through the non-resettable hour meter.
  - b. The parameters that are analyzed and the results of the oil analysis, if any, and the oil changes for the engine.
  - c. The maintenance conducted on the engine in order to demonstrate that the engine and after-treatment control device (if any) were operated and maintained in accordance with the Permittee's maintenance plan.
  - d. The records to show continuous compliance with each emission or operating limitation.
3. For ICEs subject to New Source Performance Standards, the Permittee must maintain records of the following:
- a. Keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter.
  - b. Maintain a copy of engine certifications or other documentation demonstrating that each engine complies with the applicable standards.
  - c. Engine is equipped with a diesel particulate filter, keep records of any corrective action taken after the backpressure monitor has notified the Permittee that the high backpressure limit of the engine is approached.
  - d. Maintenance conducted on the engine.
  - e. Records of all notifications submitted to comply with this Section and all documentation supporting any notification.

**D. Gasoline Dispensing Facility (GDF)**

The Permittee must keep a monthly record of throughput for the GDF.

**E. Open Burn/ Open Detonation**

The Permittee must keep a daily record of the quantities of material subjected to open burning and open detonation for showing compliance with the voluntarily accepted limitations on emissions of 9 tons per year of HCl and 22.5 tons per year of HAPs. The Permittee must use an emission factor of 0.094 pounds of HCl emitted per pound of the material subjected to open burning.

**F. Fugitive Dust**

- 1. The Permittee is required to keep record of the dates and types of dust control measures employed.

2. The Permittee is required to show compliance with the opacity standards by having a Method 9 certified observer perform a monthly survey of visible emission from fugitive dust sources. The observer is required to conduct a 6-minute Method 9 observation if the results of the initial survey appear on an instantaneous basis to exceed the applicable standard.
3. The Permittee is required to keep records of the name of the observer, the time, date, and location of the observation and the results of all surveys and observations.
4. The Permittee is required to keep records of any corrective action taken to lower the opacity of any emission point and any excess emission reports.

**G. Periodic Activities**

1. The Permittee is required to record the date, duration and pollution control measures of any abrasive blasting project.
2. The Permittee is required to record the date, duration, and quantity of paint used, any applicable SDS, and pollution control measures of any spray painting project.
3. The Permittee is required to maintain records of all asbestos related demolition or renovation projects. The required records include the “NESHAP Notification for Renovation and Demolition Activities” form and all supporting documents.

**VIII. LIST OF ABBREVIATIONS**

A.A.C.	Arizona Administrative Code
ADEQ	Arizona Department of Environmental Quality
CFR	Code of Federal Regulations
CO	Carbon Monoxide
GDF	Gasoline Dispensing Facility
HAPs	Hazardous Air Pollutants
IC	Internal Combustion
ICEs	Internal Combustion Engines
m <sup>3</sup>	Cubic meter
NESHAPs	National Emission Standards for Hazardous Air Pollutants
NO <sub>x</sub>	Nitrogen Oxides
NSR	New Source Review
NSPS	New Source Performance Standards
Pb	Lead
PM	Particulate Matter
PM <sub>10</sub>	Particulate Matter Nominally less than 10 Micrometers
PTE	Potential-to-emit
RICE	Reciprocating Internal Combustion Engine
SO <sub>2</sub>	Sulfur Dioxide
tpy	Tons Per Year
VOC	Volatile Organic Compound
YPG	Yuma Proving Ground